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Steve Y. Cho, Reg. No. 44,612, (650) 326-2400
Titled: Modeling System for Graphic User Interface
App. No. 10/712,771 Filed: November 12, 2003
Dckt. No. 017900-003810US

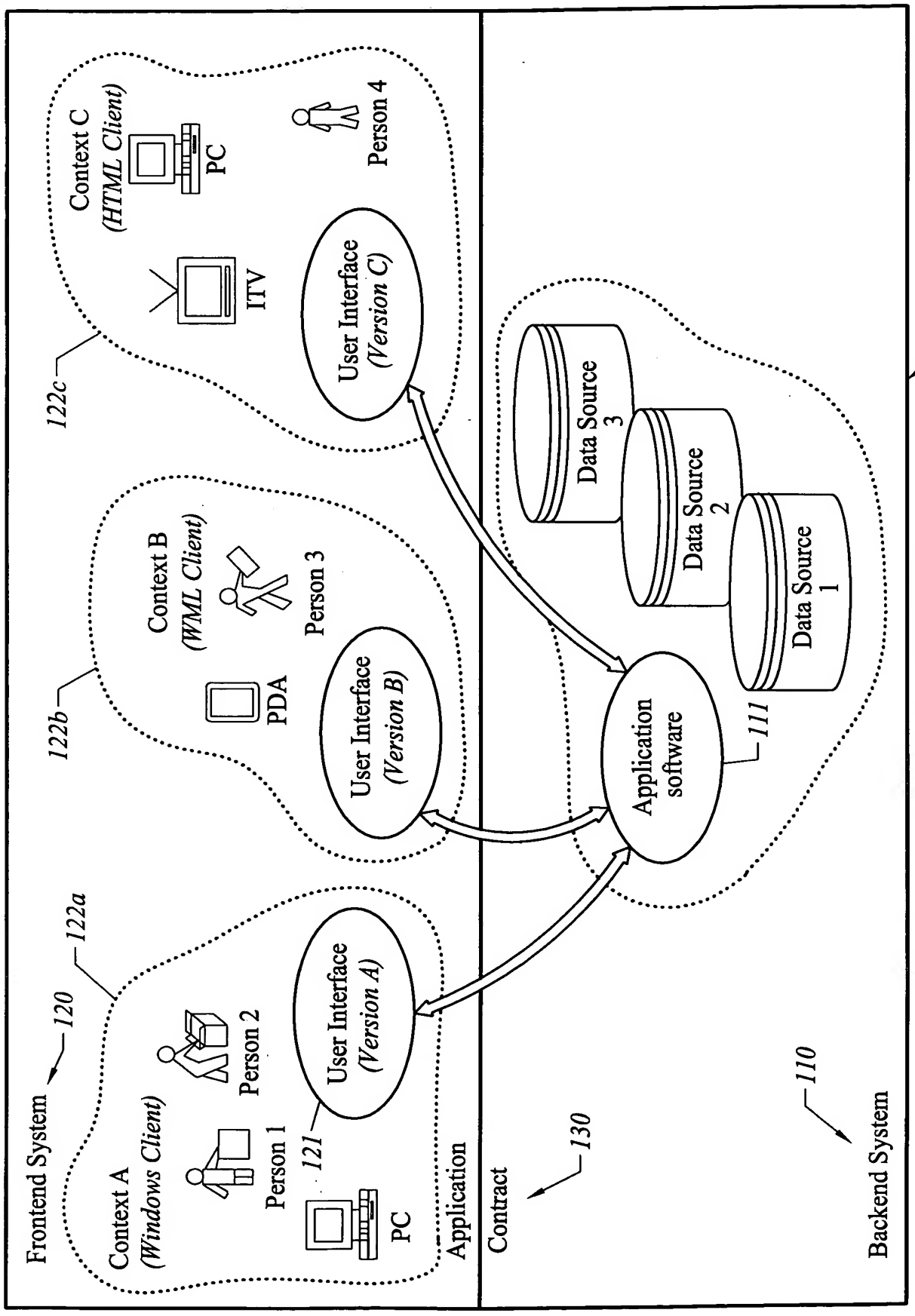


FIG. 1

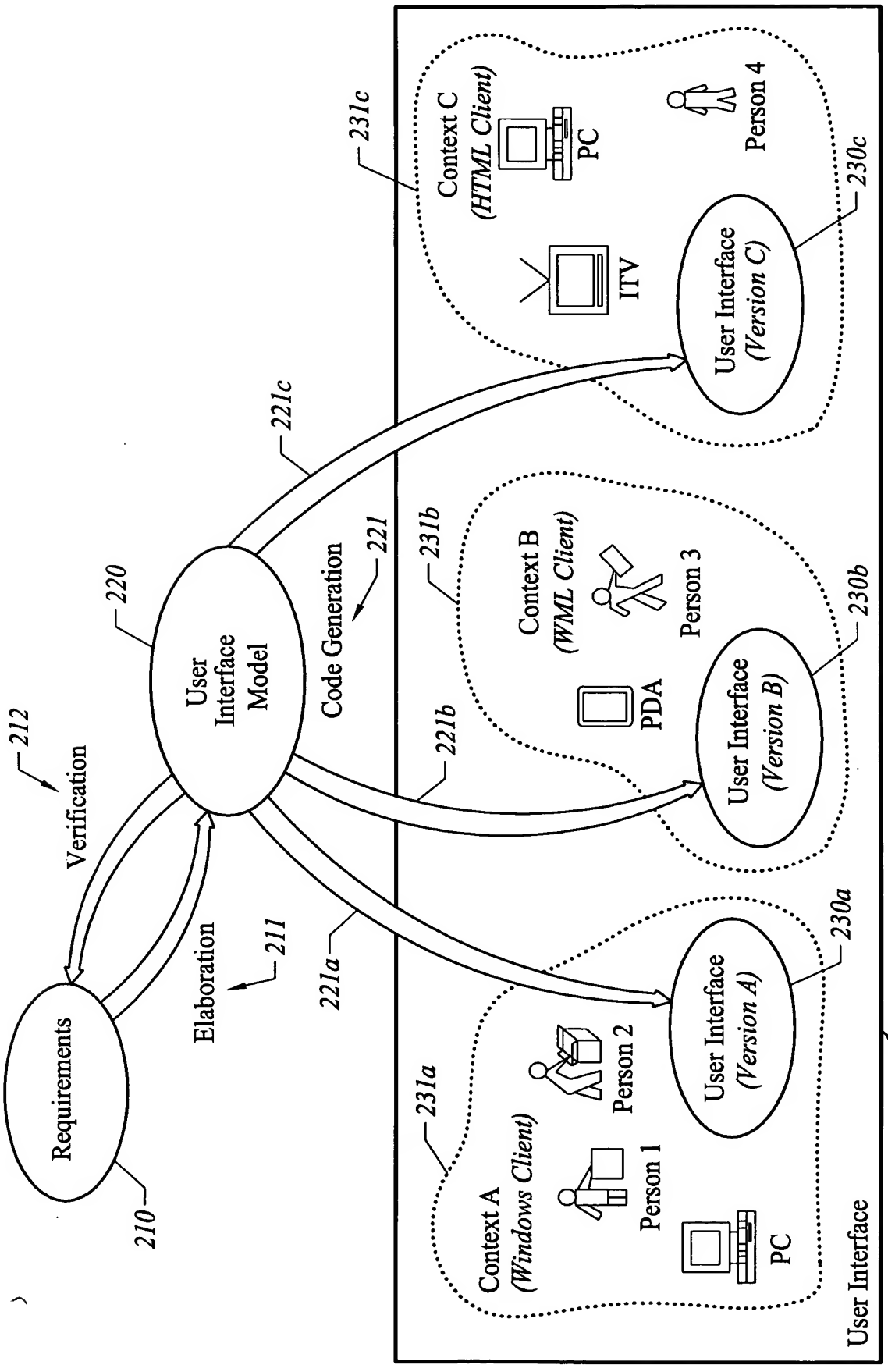
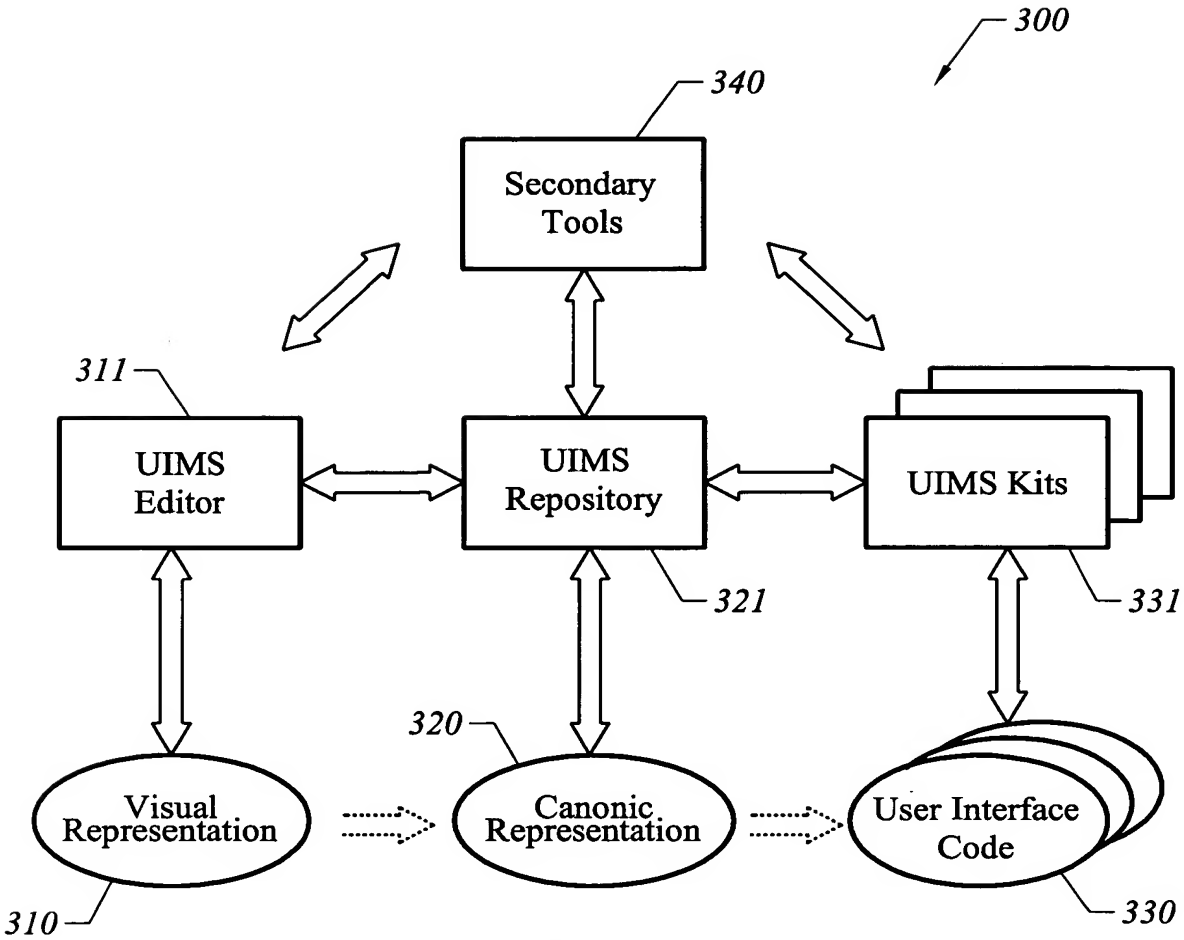

Requirements
210
Verification
212
Elaboration
211
User Interface Model
220
Code Generation
221
221a
221b
221c
User Interface
200
231a
Context A
(Windows Client)
Person 1
Person 2
PC
231b
Context B
(WML Client)
PDA
Person 3
231c
Context C
(HTML Client)
PC
ITV
Person 4
User Interface (Version A)
230a
User Interface (Version B)
230b
User Interface (Version C)
230c

FIG. 2



User Interface Modeling system (UIMS)

FIG. 3A

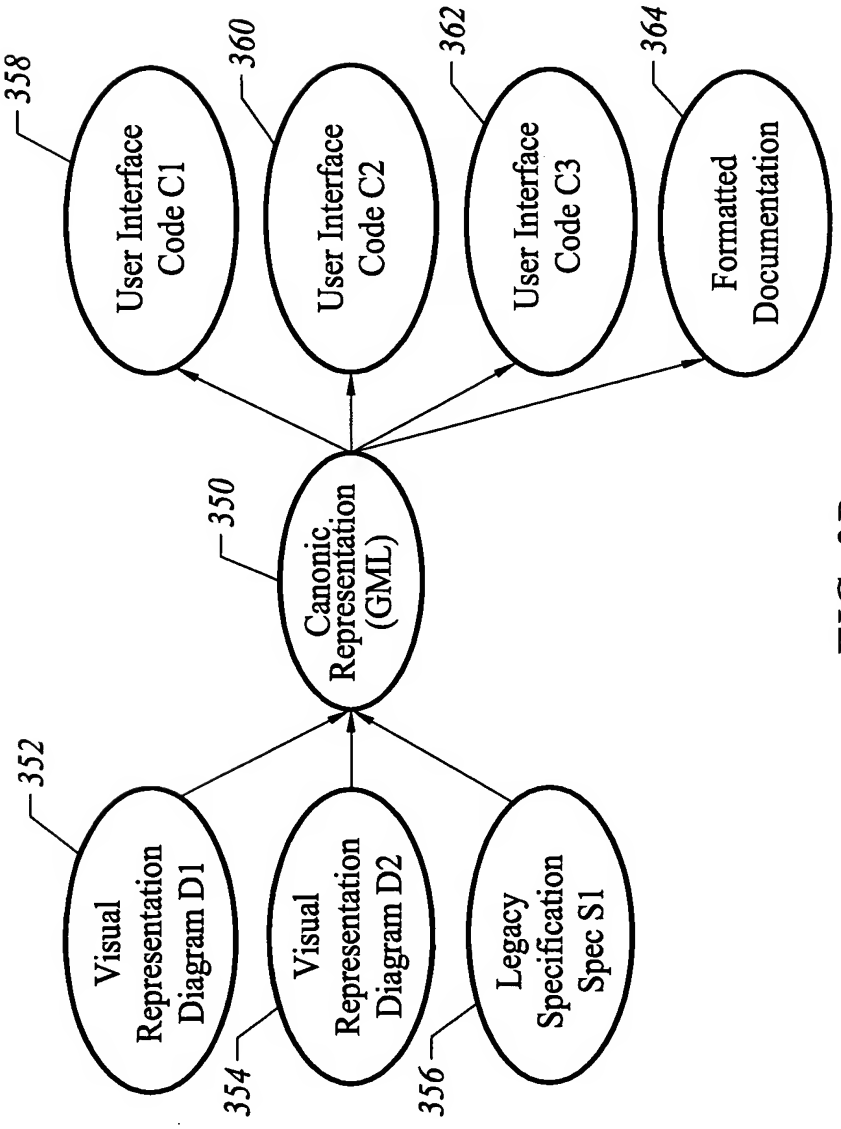

358
User Interface Code C1
360
User Interface Code C2
362
User Interface Code C3
364
Formatted Documentation
350
Canonic Representation (GML)
352
Visual Representation Diagram D1
354
Visual Representation Diagram D2
356
Legacy Specification Spec S1

FIG. 3B

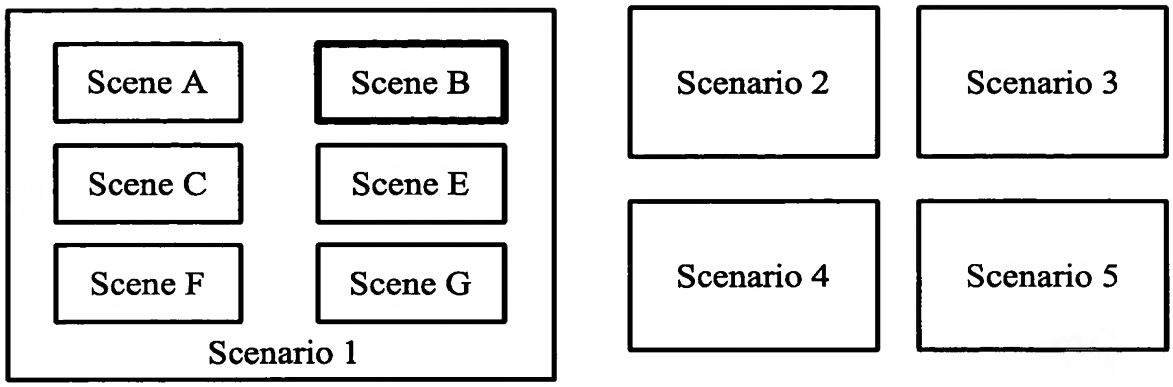

Scene A
Scene B
Scene C
Scene E
Scene F
Scene G
Scenario 1
Scenario 2
Scenario 3
Scenario 4
Scenario 5

FIG. 3C

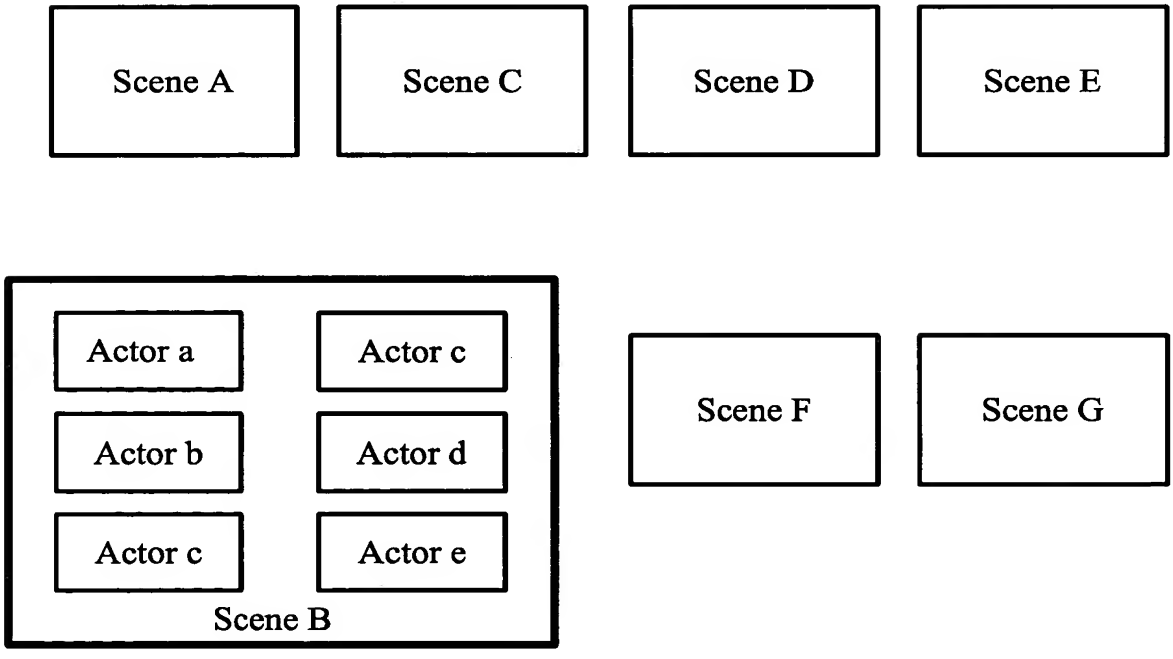

Scene A
Scene C
Scene D
Scene E
Actor a
Actor c
Actor b
Actor d
Actor c
Actor e
Scene B
Scene F
Scene G

FIG. 3D

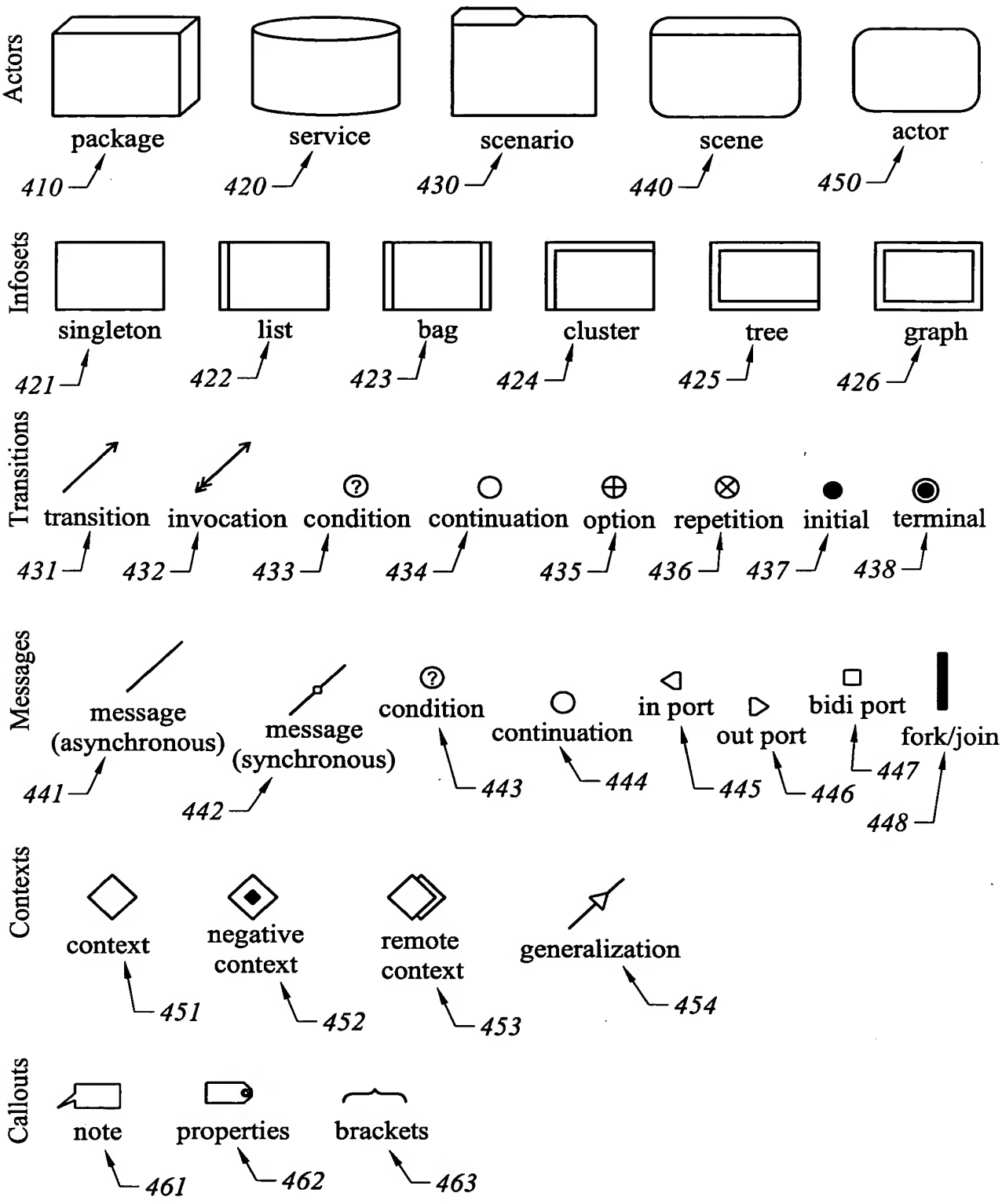

Actors
package
410
service
420
scenario
430
scene
440
actor
450
Infosets
singleton
421
list
422
bag
423
cluster
424
tree
425
graph
426
Transitions
transition
431
invocation
432
condition
433
continuation
434
option
435
repetition
436
initial
437
terminal
438
Messages
message (asynchronous)
441
message (synchronous)
442
condition
443
continuation
444
in port
445
out port
446
bidi port
447
fork/join
448
Contexts
context
451
negative context
452
remote context
453
generalization
454
Callouts
note
461
properties
462
brackets
463

FIG. 4

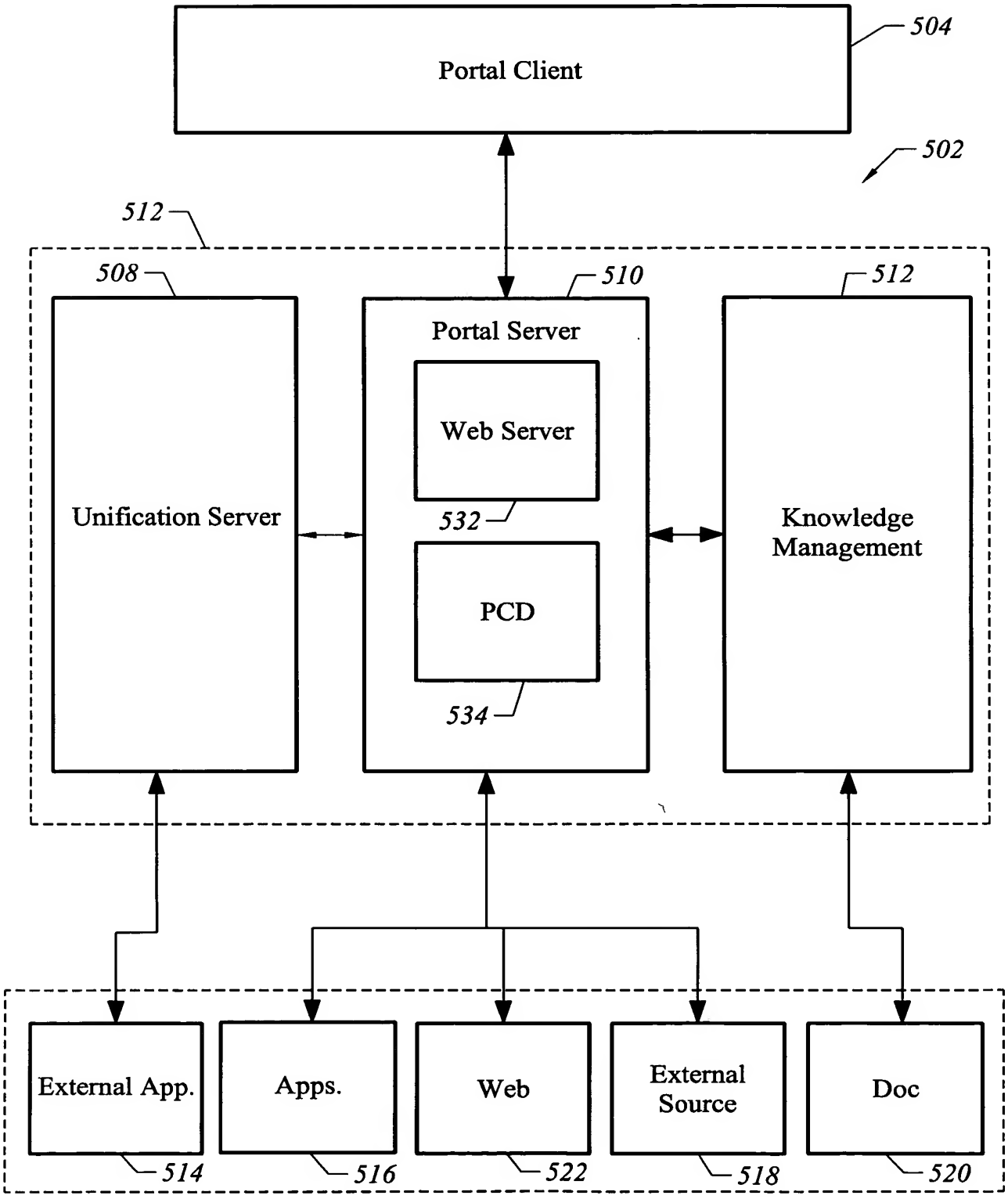

Portal Client
504
502
512
508
510
512
Portal Server
Web Server
532
Unification Server
Knowledge Management
PCD
534
External App.
Apps.
Web
External Source
Doc
514
516
522
518
520

FIG. 5

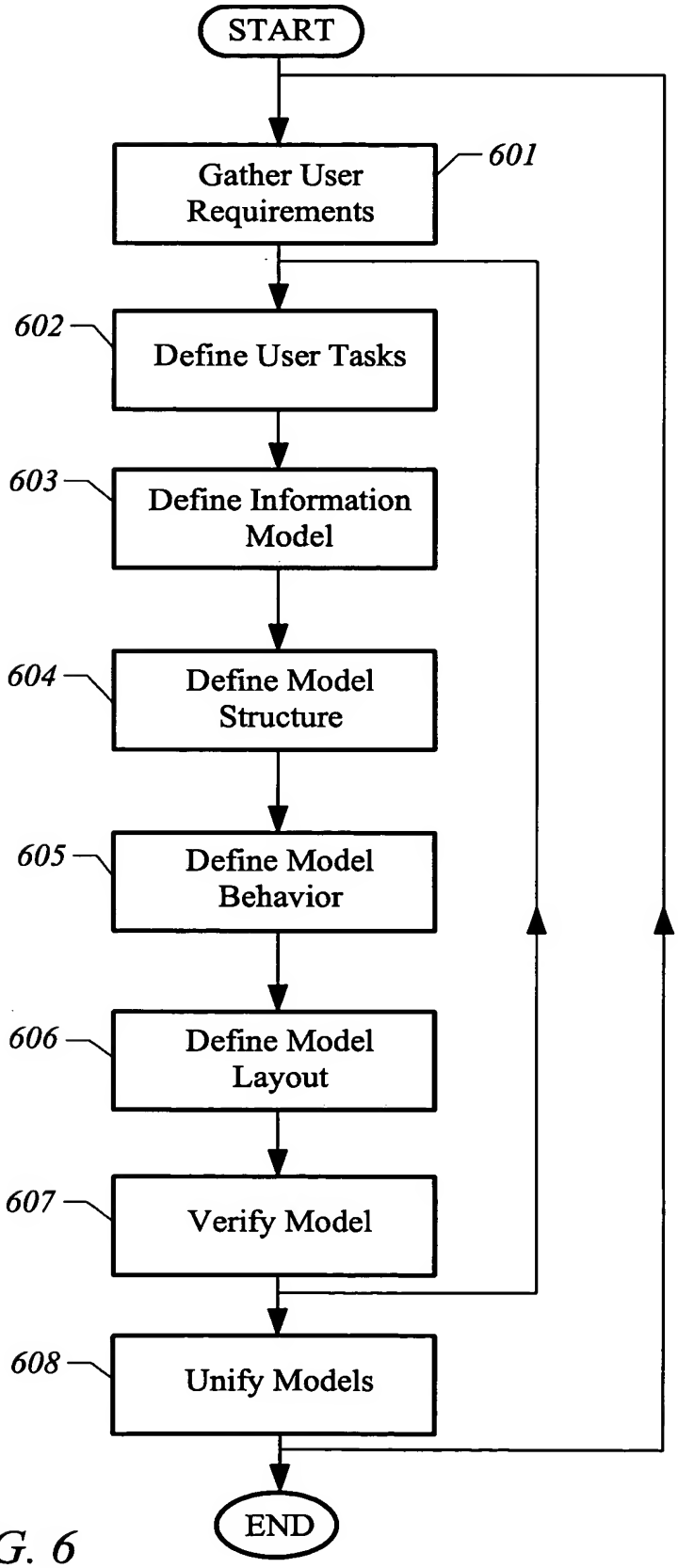

START
Gather User Requirements
601
602
Define User Tasks
603
Define Information Model
604
Define Model Structure
605
Define Model Behavior
606
Define Model Layout
607
Verify Model
608
Unify Models
END

FIG. 6

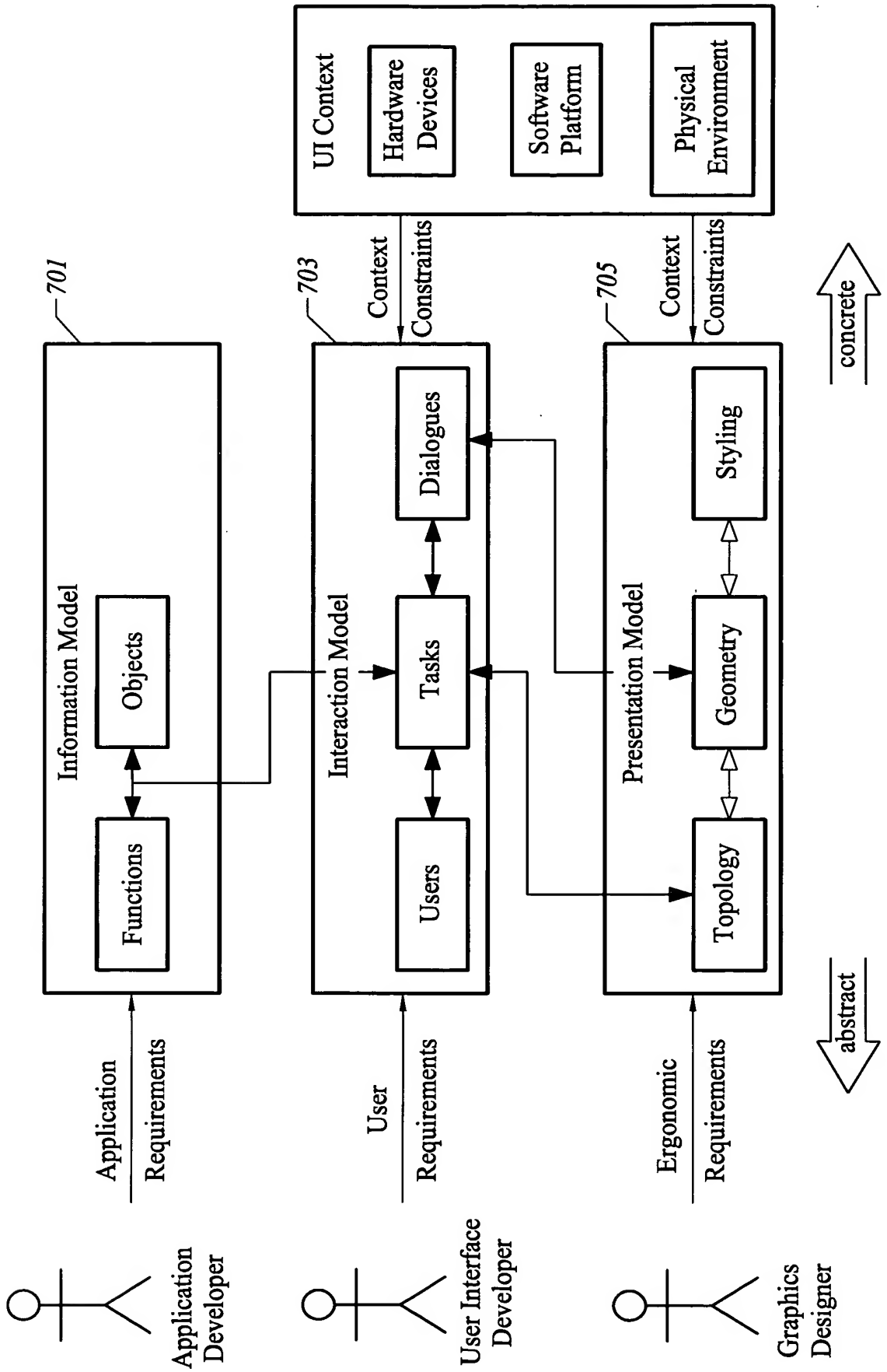

UI Context
Hardware Devices
Software Platform
Physical Environment
701
703
705
Context
Constraints
Context
Constraints
Information Model
Objects
Functions
Interaction Model
Dialogues
Tasks
Users
Presentation Model
Styling
Geometry
Topology
concrete
abstract
Application Requirements
User Requirements
Ergonomic Requirements
Application Developer
User Interface Developer
Graphics Designer

FIG. 7A

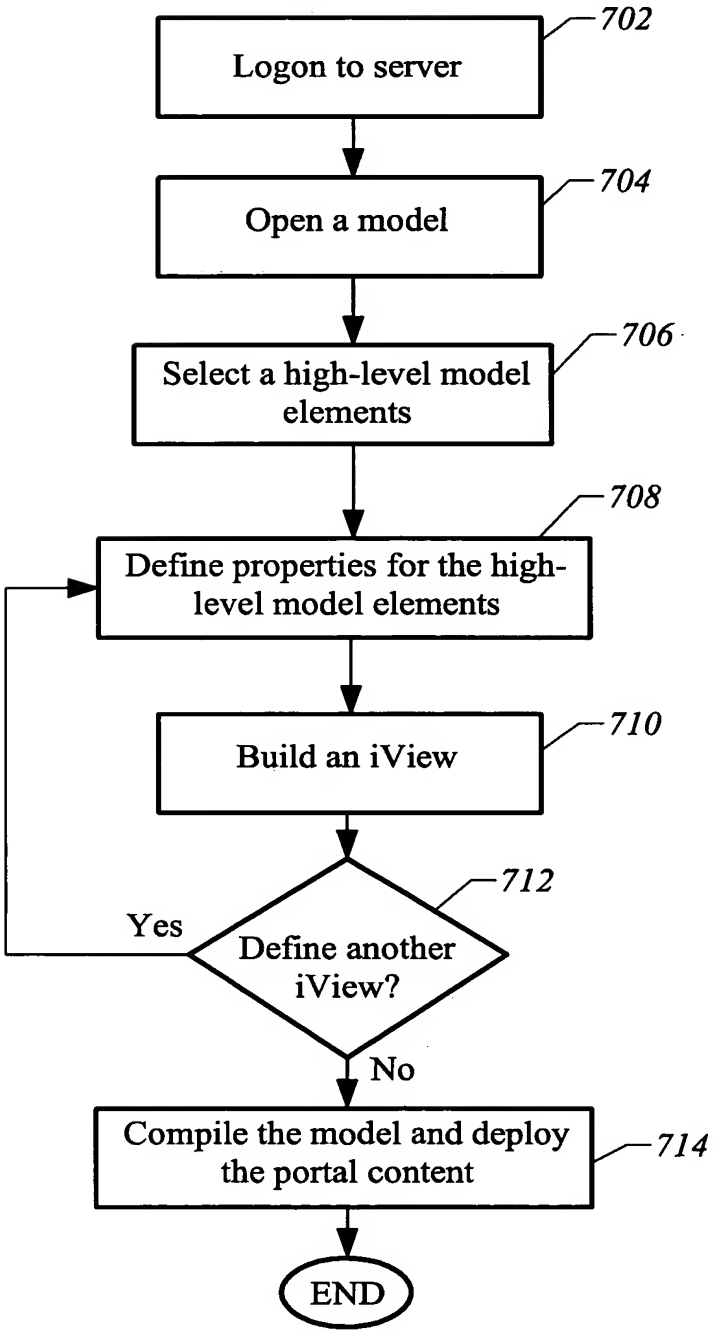

Logon to server
702
Open a model
704
Select a high-level model elements
706
Define properties for the high-level model elements
708
Build an iView
710
Define another iView?
712
Yes
No
Compile the model and deploy the portal content
714
END

FIG. 7B

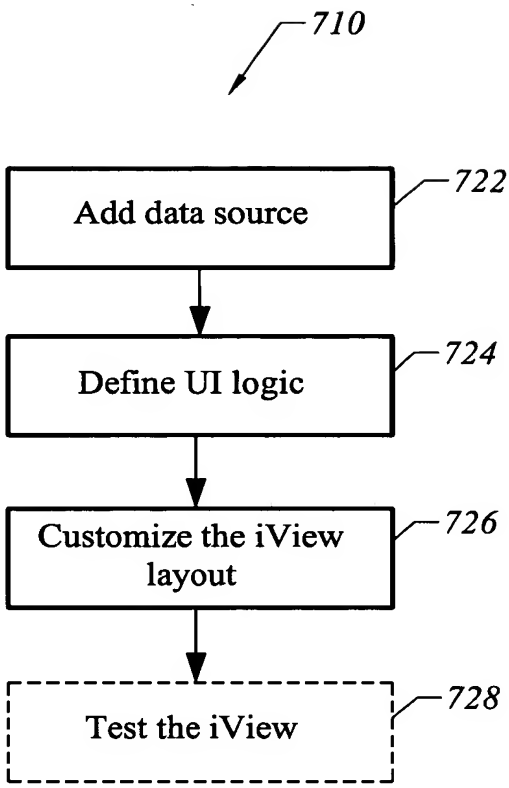

710
Add data source
722
Define UI logic
724
Customize the iView layout
726
Test the iView
728

FIG. 7C

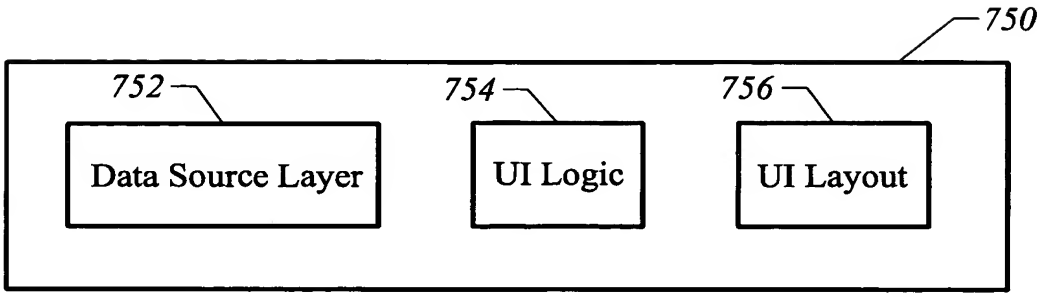

750
752
754
756
Data Source Layer
UI Logic
UI Layout

FIG. 7D

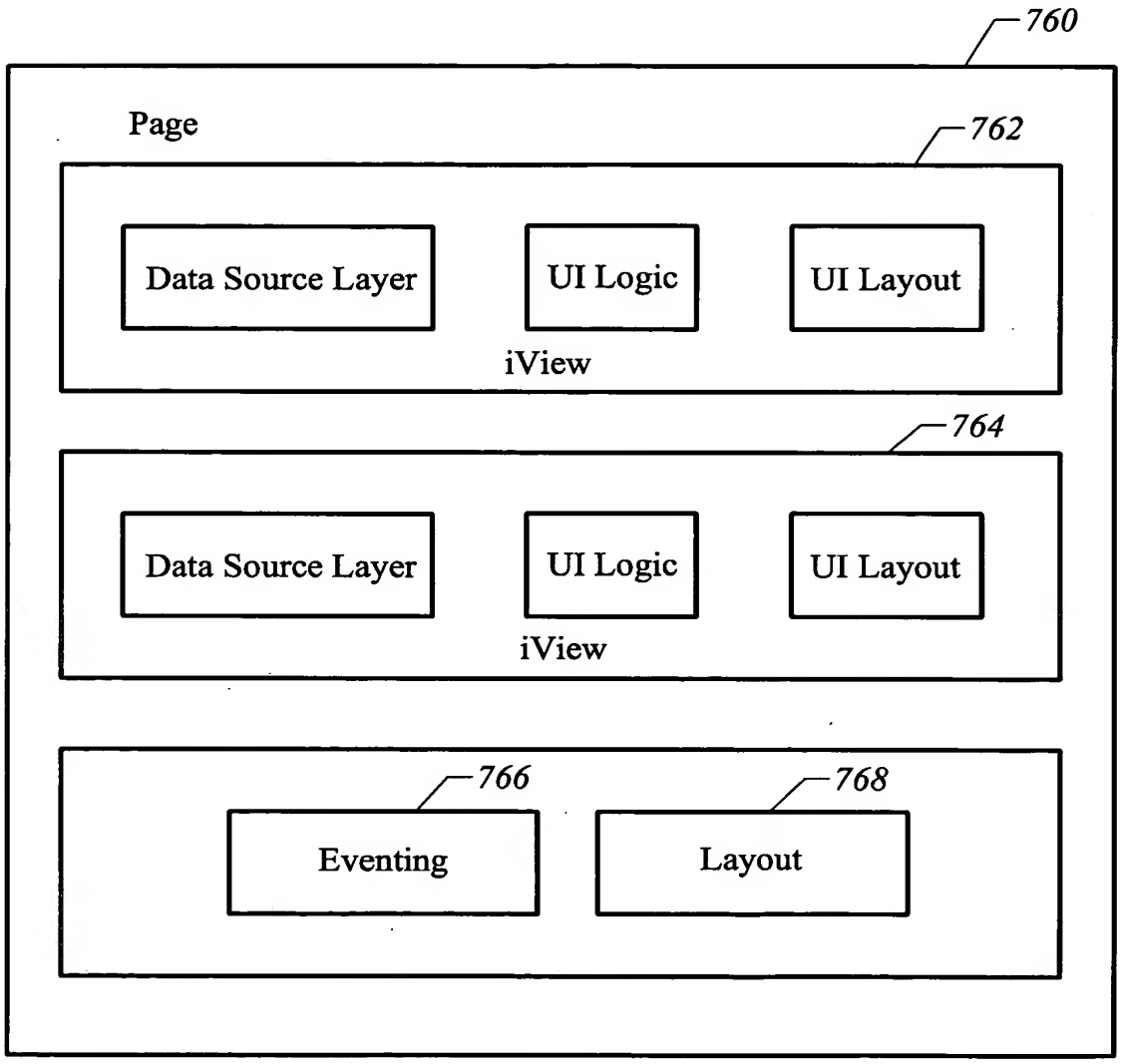

760
Page
762
Data Source Layer
UI Logic
UI Layout
iView
764
Data Source Layer
UI Logic
UI Layout
iView
766
768
Eventing
Layout

FIG. 7E

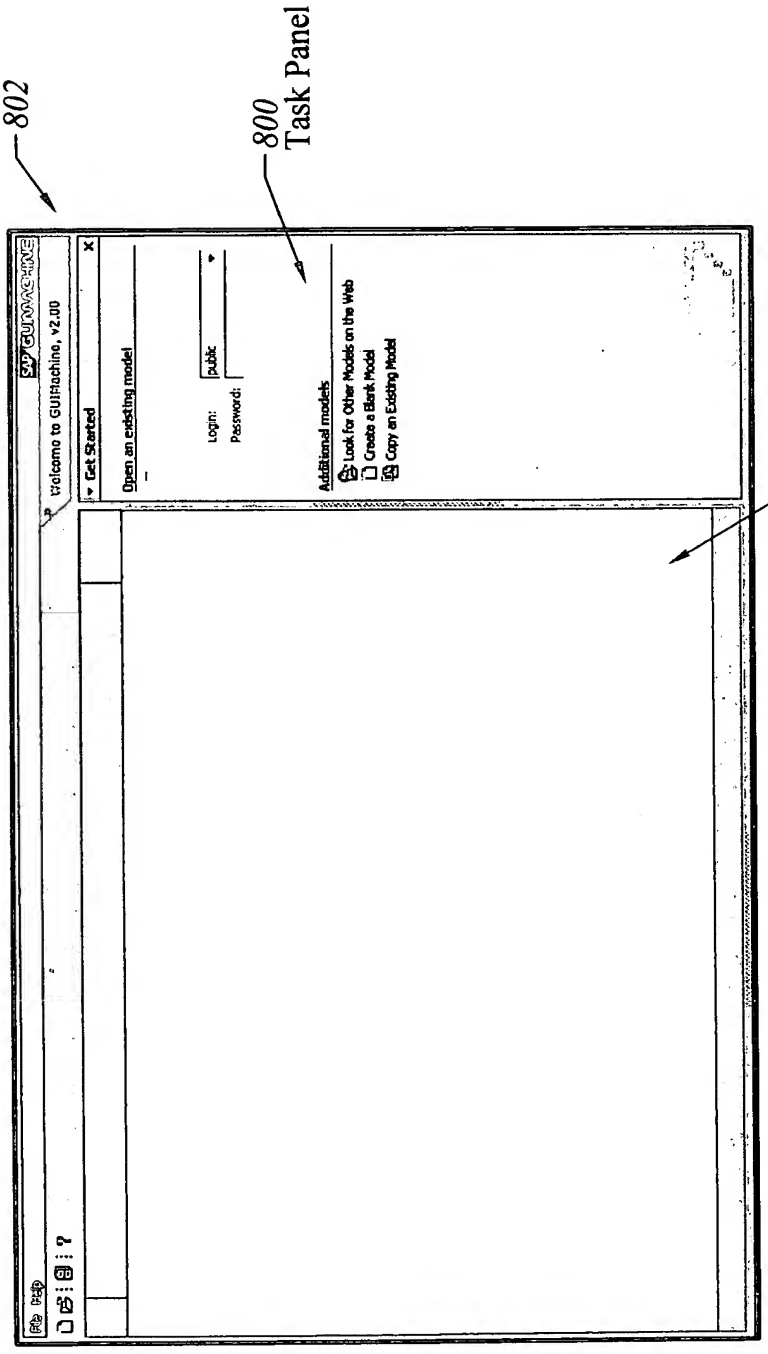

802
800
Task Panel
806
Workspace
Welcome to GUIMachine, v2.00
Get Started
Open an existing model
Login:
public
Password:
Additional models
Look for Other Models on the Web
Create a Blank Model
Copy an Existing Model

FIG. 8

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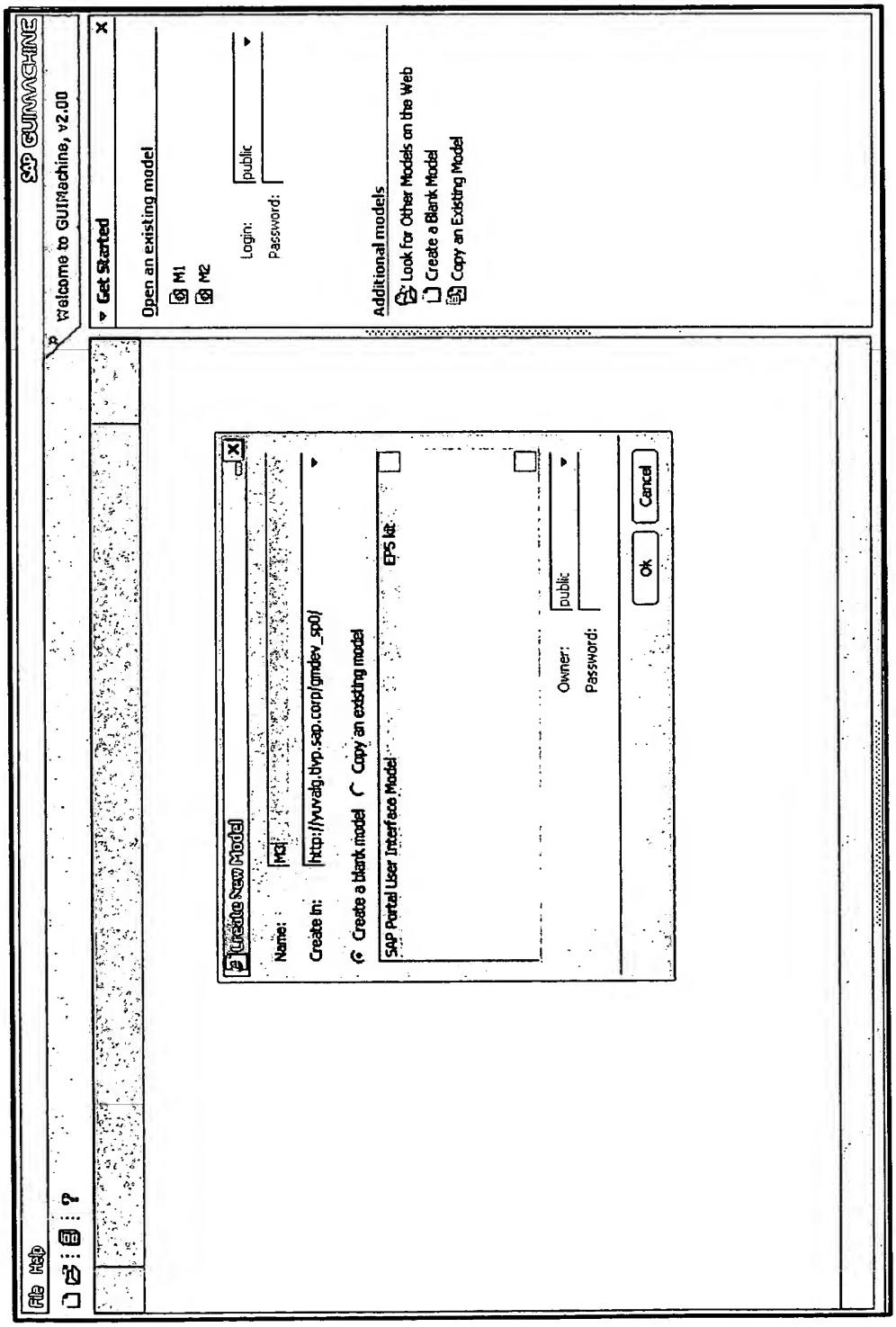
902
SAP GUIMACHINE
File Help
Welcome to GUIMachine, v2.00
Get Started
Open an existing model
M1
M2
Login:
public
Password:
Additional models
Look for Other Models on the Web
Create a Blank Model
Copy an Existing Model
Create New Model
Name:
M3
Create In:
http://yuvalg.byp.sap.corp/gmdev_sp0/
Create a blank model
Copy an existing model
SAP Portal User Interface Model
EPS kit
Owner:
public
Password:
Ok
Cancel

FIG. 9

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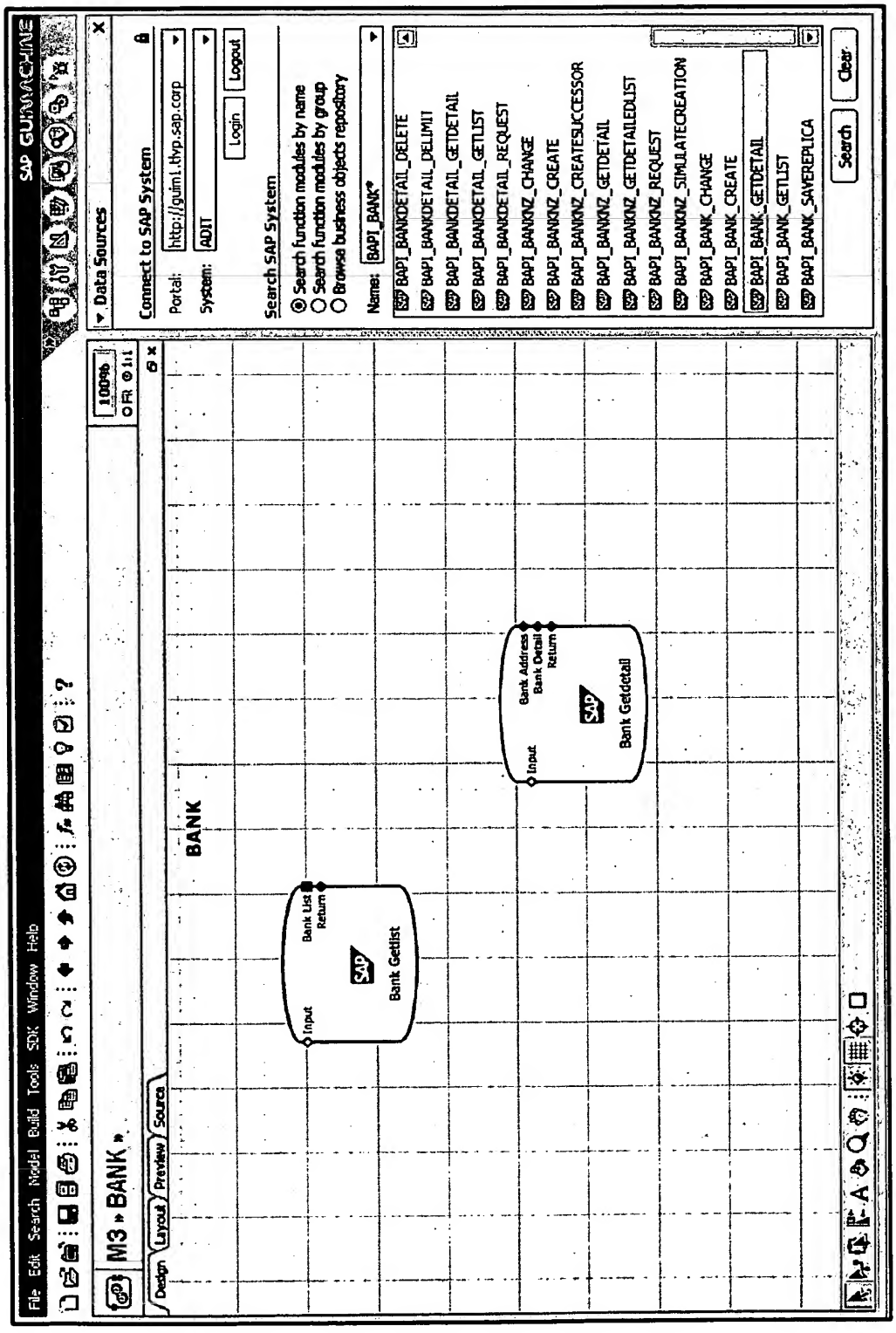
SAP GUI MACHINE
File Edit Search Model Build Tools SDK Window Help
M3 » BANK »
Design Layout Preview Source
BANK
Data Sources
Connect to SAP System
Portal: http://guim1.tlvp.sap.corp
System: ADIT
Login Logout
Search SAP System
Search function modules by name
Search function modules by group
Browse business objects repository
Name: BAPI_BANK*
BAPI_BANKDETAIL_DELETE
BAPI_BANKDETAIL_DELIMIT
BAPI_BANKDETAIL_GETDETAIL
BAPI_BANKDETAIL_GETLIST
BAPI_BANKDETAIL_REQUEST
BAPI_BANKNZ_CHANGE
BAPI_BANKNZ_CREATE
BAPI_BANKNZ_CREATESUCCESSOR
BAPI_BANKNZ_GETDETAIL
BAPI_BANKNZ_GETDETAILEDLIST
BAPI_BANKNZ_REQUEST
BAPI_BANKNZ_SIMULATECREATION
BAPI_BANK_CHANGE
BAPI_BANK_CREATE
BAPI_BANK_GETDETAIL
BAPI_BANK_GETLIST
BAPI_BANK_SAVEREPLICA
Search
Clear
Input
Bank List
Return
Bank Getlist
Input
Bank Address
Bank Detail
Return
Bank Getdetail

FIG. 10A

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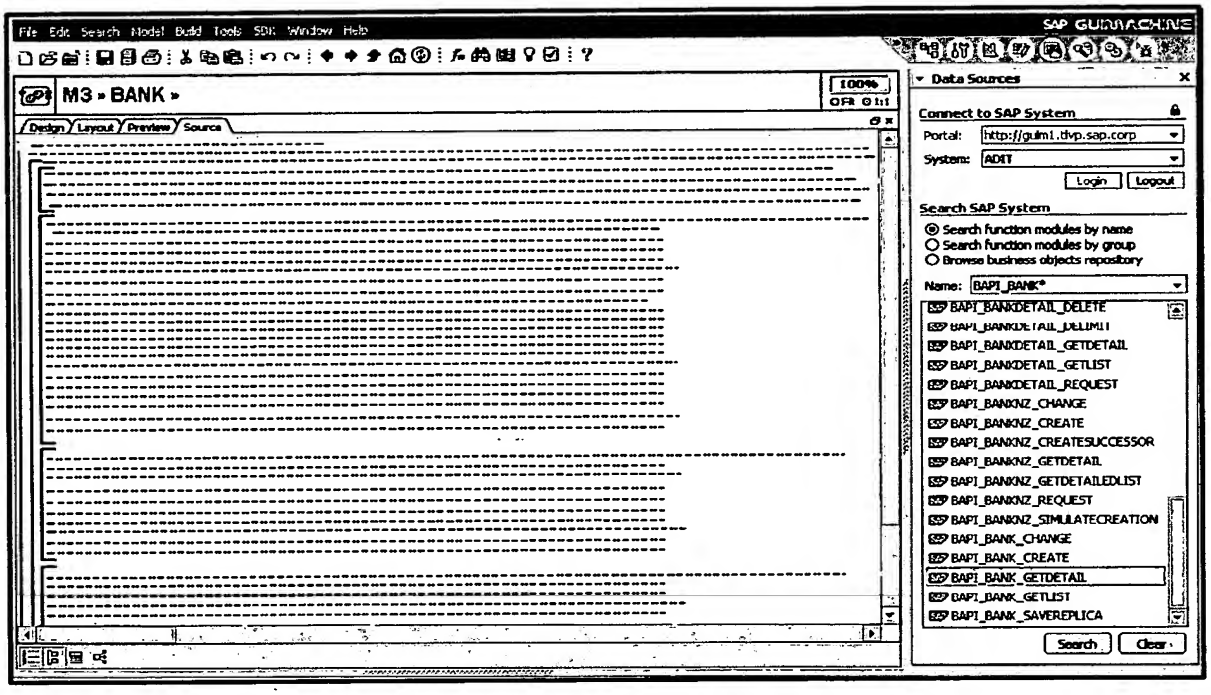
File Edit Search Model Build Tools SDK Window Help
SAP GUIMACHINE
M3 » BANK »
100%
Design Layout Preview Source
Data Sources
Connect to SAP System
Portal: http://guim1.dvp.sap.corp
System: ADIT
Login Logout
Search SAP System
Search function modules by name
Search function modules by group
Browse business objects repository
Name: BAPI_BANK*
BAPI_BANKDETAIL_DELETE
BAPI_BANKDETAIL_GETDETAIL
BAPI_BANKDETAIL_GETLIST
BAPI_BANKDETAIL_REQUEST
BAPI_BANKNZ_CHANGE
BAPI_BANKNZ_CREATE
BAPI_BANKNZ_CREATESUCCESSOR
BAPI_BANKNZ_GETDETAIL
BAPI_BANKNZ_GETDETAILEDLIST
BAPI_BANKNZ_REQUEST
BAPI_BANKNZ_SIMULATECREATION
BAPI_BANK_CHANGE
BAPI_BANK_CREATE
BAPI_BANK_GETDETAIL
BAPI_BANK_GETLIST
BAPI_BANK_SAVEREPLICA
Search
Clear

FIG. 10B

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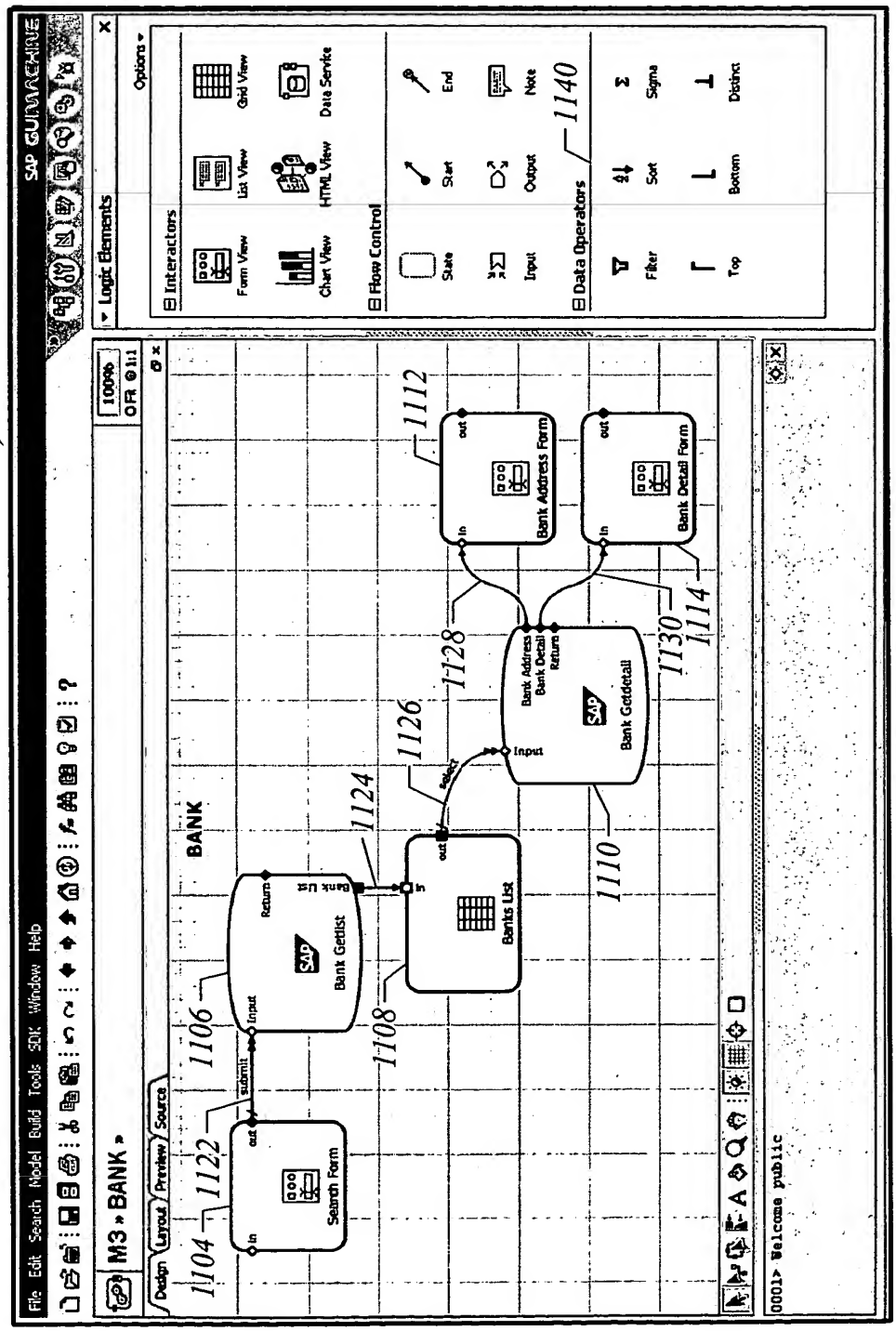
1102
File Edit Search Model Build Tools SDK Window Help
SAP GUINNCHIVE
M3 » BANK »
Design Layout Preview Source
BANK
Logic Elements
Options
Interactors
Form View
List View
Grid View
Chart View
HTML View
Data Service
Flow Control
State
Start
End
Input
Output
Note
Data Operators
Filter
Sort
Sigma
Top
Bottom
Distinct
Search Form
Bank GetList
Banks List
Bank Address Form
Bank Detail Form
Bank GetDetail
Return
Input
Submit
Select
Bank Address
Bank Detail
1104
1106
1108
1110
1112
1114
1122
1124
1126
1128
1130
1140
0001> Welcome public

FIG. 11A

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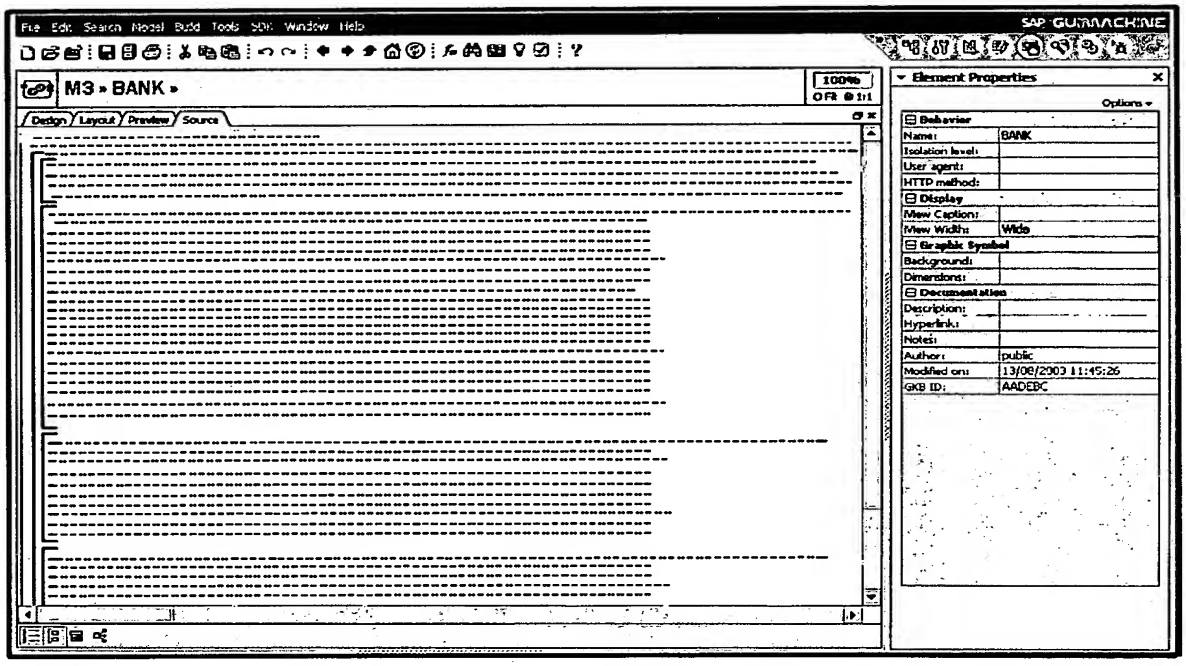
File Edit Search Model Build Tools SDK Window Help
SAP GUMMACHINE
M3 » BANK »
100%
Design Layout Preview Source
Element Properties
Options
Behavior
Name: BANK
Isolation level:
User agent:
HTTP method:
Display
Menu Caption:
View Width: Wide
Graphic Symbol
Backgrounds:
Dimensions:
Documentation
Description:
Hyperlink:
Notes:
Author: public
Modified on: 13/08/2003 11:45:26
GKB ID: AADEBC

FIG. 11B

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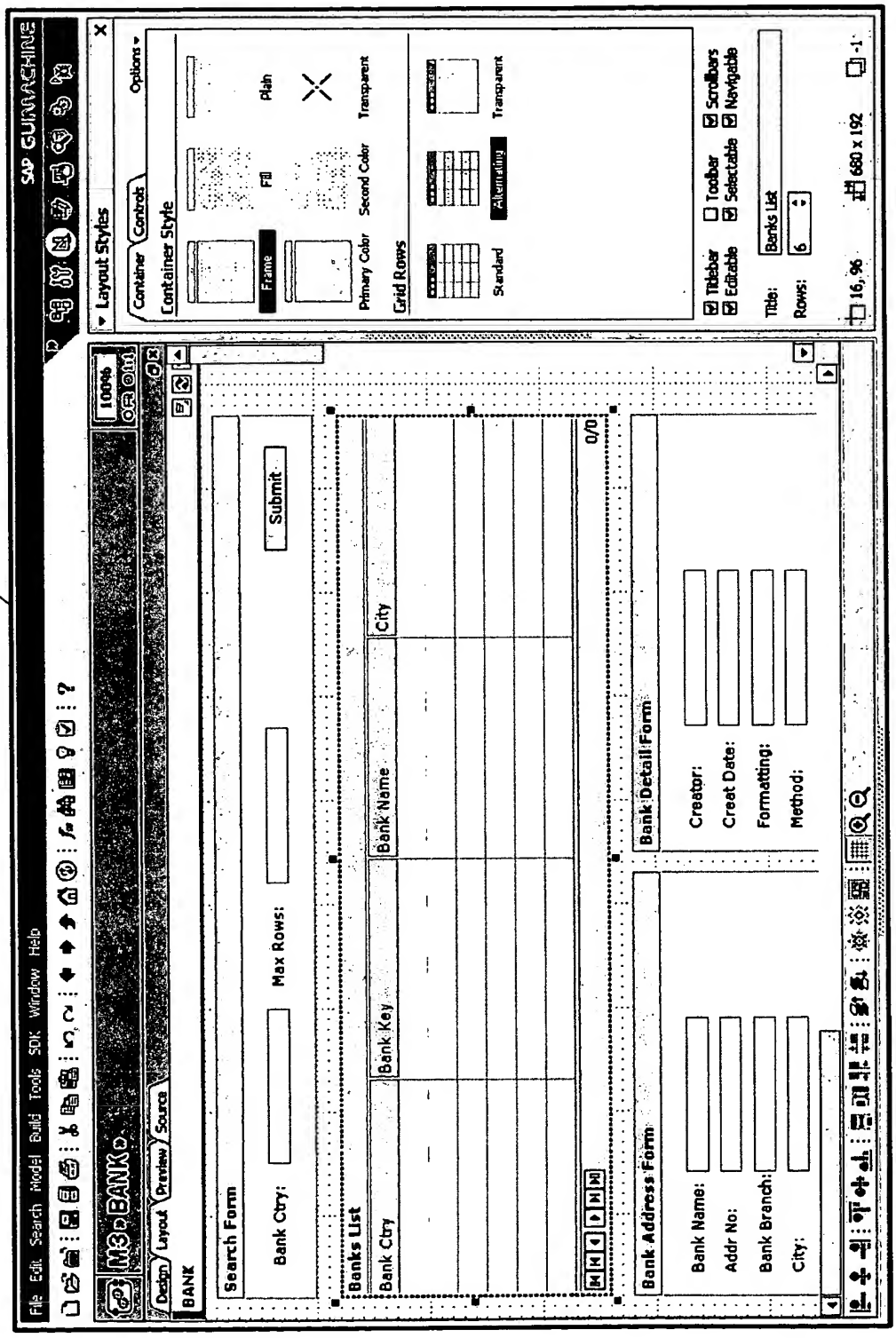
1202
SAP GUINACHINE
File Edit Search Model Build Tools SDK Window Help
M3 BANK
Design Layout Preview Source
BANK
Search Form
Bank Ctry:
Max Rows:
Submit
Banks List
Bank Ctry
Bank Key
Bank Name
City
0/0
Bank Address Form
Bank Name:
Addr No:
Bank Branch:
City:
Bank Detail Form
Creator:
Creat Date:
Formatting:
Method:
Layout Styles
Container Controls
Container Style
Frame
Plain
Fill
Primary Color
Second Color
Transparent
Grid Rows
Standard
Alternating
Transparent
Titlebar
Toolbar
Scrollbars
Editable
Selectable
Navigable
Title:
Banks List
Rows:
6
16, 96
660 x 192

FIG. 12

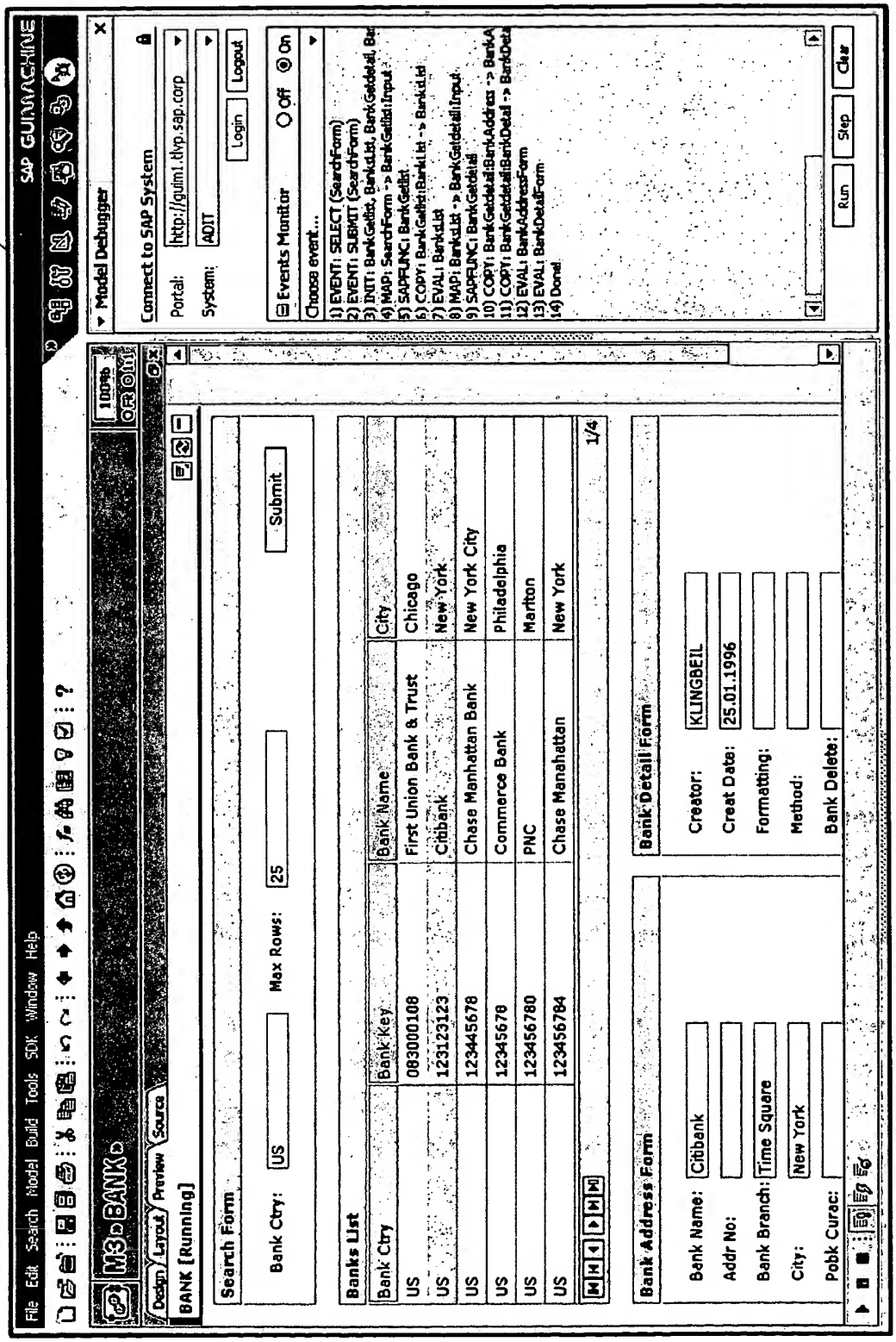
1302
SAP GUINACHINE
Model Debugger
Connect to SAP System
Portal:
http://guim1.tlvp.sap.corp
System:
ADIT
Login
Logout
Events Monitor
Off
On
Choose event...
1) EVENT: SELECT (SearchForm)
2) EVENT: SUBMIT (SearchForm)
3) INIT: BankGetAll, BankList, BankGetDetail, Ba
4) MAP: SearchForm -> BankGetDetailInput
5) SAPFUNC: BankGetAll
6) COPY: BankGetAll:BankList -> BankList
7) EVAL: BankList
8) MAP: BankList -> BankGetDetailInput
9) SAPFUNC: BankGetDetail
10) COPY: BankGetDetail:BankAddress -> BankA
11) COPY: BankGetDetail:BankDetail -> BankDeta
12) EVAL: BankAddressForm
13) EVAL: BankDetailForm
14) Done!
Run
Step
Clear
M3 BANK
Design
Layout
Preview
Source
BANK [Running]
Search Form
Bank Ctry:
US
Max Rows:
25
Submit
Banks List
Bank Ctry
Bank Key
Bank Name
City
US
083000108
First Union Bank & Trust
Chicago
US
123123123
Citibank
New York
US
123445678
Chase Manhattan Bank
New York City
US
12345678
Commerce Bank
Philadelphia
US
123456780
PNC
Marlton
US
123456784
Chase Manahattan
New York
1/4
Bank Address Form
Bank Name:
Citibank
Addr No:
Bank Branch:
Time Square
City:
New York
Pobk Curac:
Bank Detail Form
Creator:
KLINGBEIL
Creat Date:
25.01.1996
Formatting:
Method:
Bank Delete:

FIG. 13

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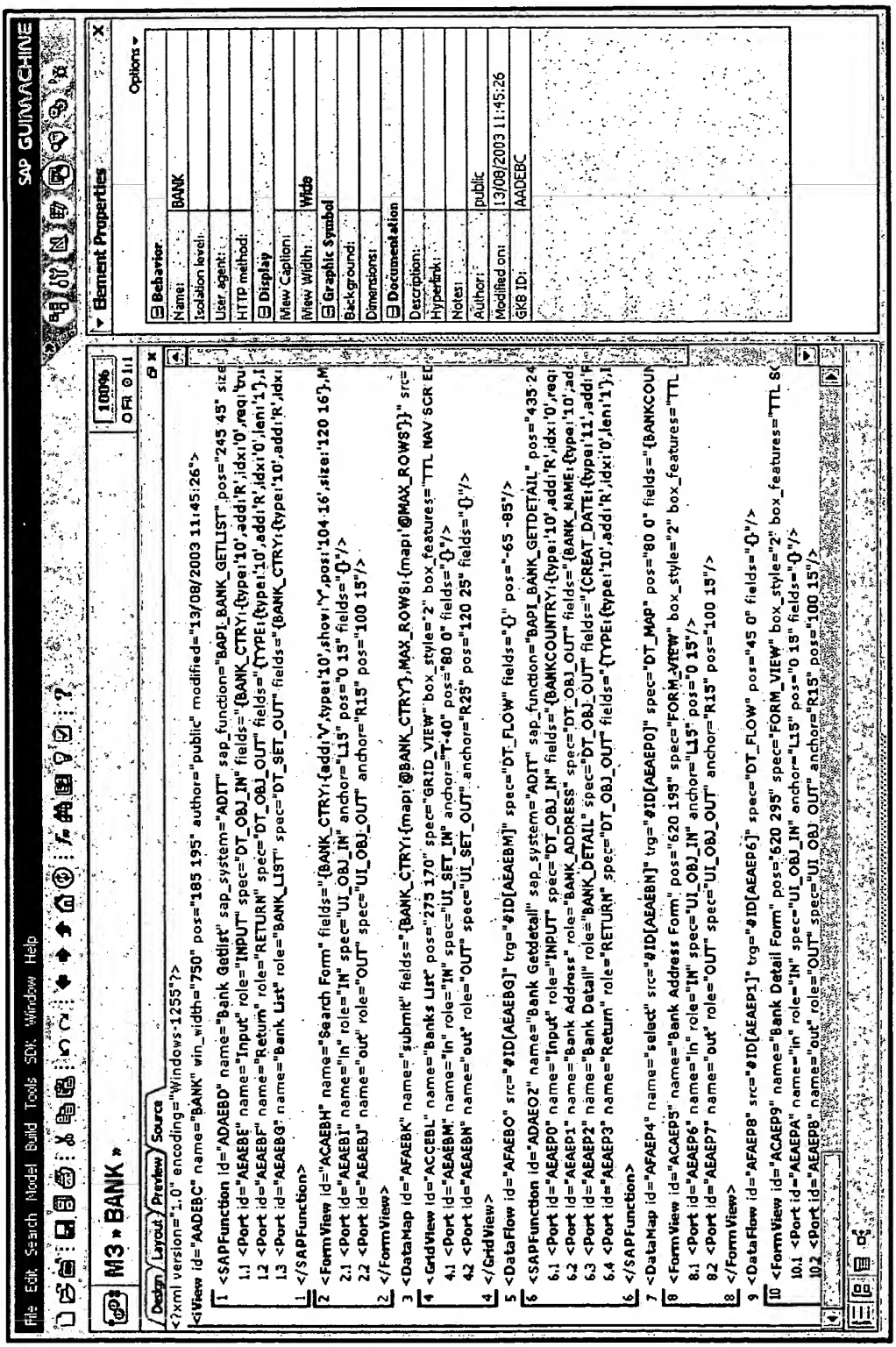
SAP GUIMACHINE
M3 » BANK »
Element Properties
Behavior
Display
Graphic Symbol
Documentation

FIG. 14

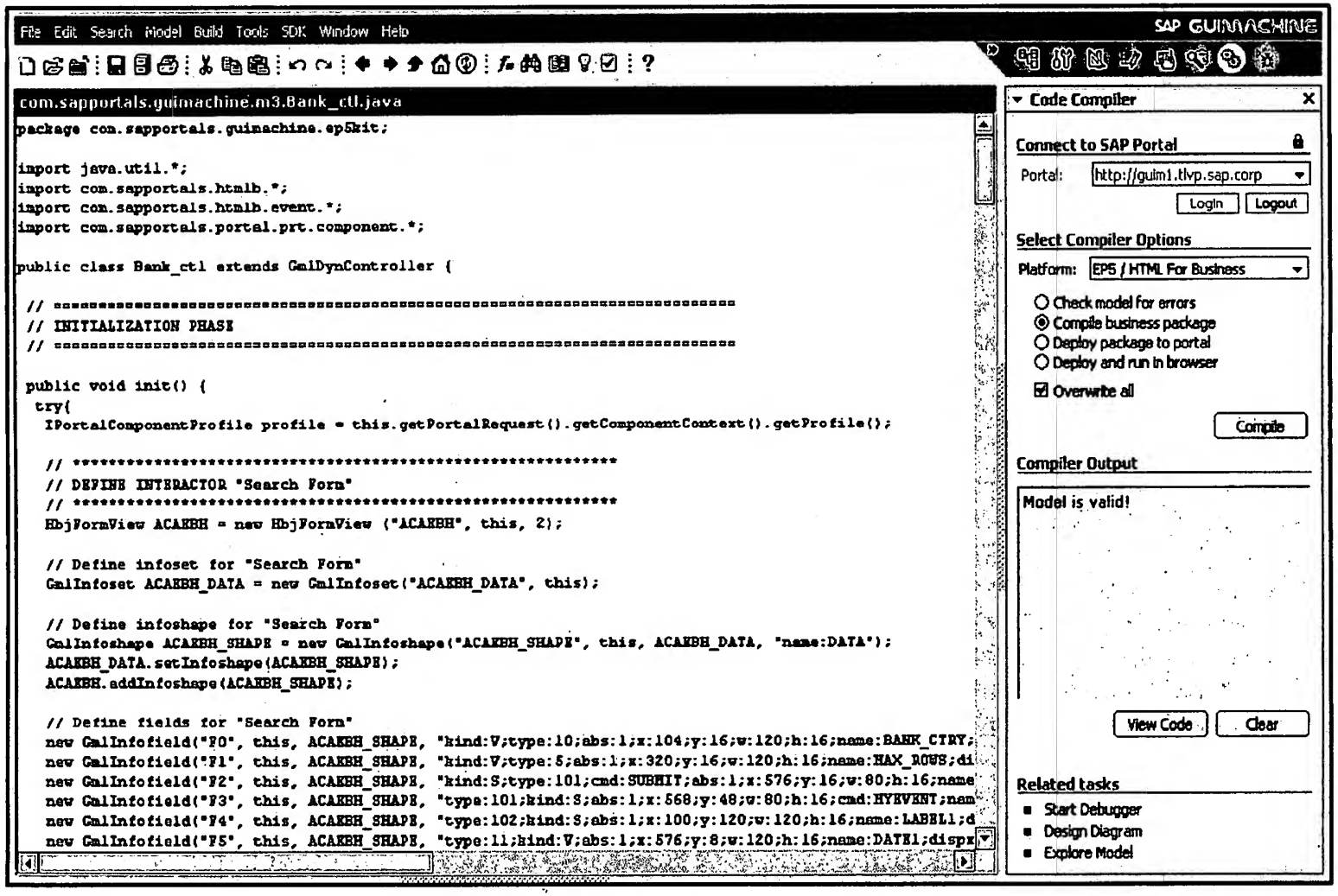
File Edit Search Model Build Tools SDK Window Help
SAP GUIMACHINE
com.sapportals.guimachine.m3.Bank_ctl.java
package com.sapportals.guimachine.ep5kit;
import java.util.*;
import com.sapportals.htmlb.*;
import com.sapportals.htmlb.event.*;
import com.sapportals.portal.prt.component.*;
public class Bank_ctl extends GmlDynController {
// INITIALIZATION PHASE
public void init() {
try{
IPortalComponentProfile profile = this.getPortalRequest().getComponentContext().getProfile();
// DEFINE INTERACTOR "Search Form"
HbjFormView ACAKBH = new HbjFormView ("ACAKBH", this, 2);
// Define infoset for "Search Form"
GmlInfoset ACAKBH_DATA = new GmlInfoset("ACAKBH_DATA", this);
// Define infoshape for "Search Form"
GmlInfoshape ACAKBH_SHAPE = new GmlInfoshape("ACAKBH_SHAPE", this, ACAKBH_DATA, "name:DATA");
ACAKBH_DATA.setInfoshape(ACAKBH_SHAPE);
ACAKBH.addInfoshape(ACAKBH_SHAPE);
// Define fields for "Search Form"
new GmlInfofield("F0", this, ACAKBH_SHAPE, "kind:V;type:10;abs:1;x:104;y:16;w:120;h:16;name:BANK_CTRY;
new GmlInfofield("F1", this, ACAKBH_SHAPE, "kind:V;type:5;abs:1;x:320;y:16;w:120;h:16;name:MAX_ROWS;di
new GmlInfofield("F2", this, ACAKBH_SHAPE, "kind:S;type:101;cmd:SUBMIT;abs:1;x:576;y:16;w:80;h:16;name
new GmlInfofield("F3", this, ACAKBH_SHAPE, "type:101;kind:S;abs:1;x:568;y:48;w:80;h:16;cmd:HYEVENT;nam
new GmlInfofield("F4", this, ACAKBH_SHAPE, "type:102;kind:S;abs:1;x:100;y:120;w:120;h:16;name:LABEL1;d
new GmlInfofield("F5", this, ACAKBH_SHAPE, "type:11;kind:V;abs:1;x:576;y:8;w:120;h:16;name:DATE1;dispx
Code Compiler
Connect to SAP Portal
Portal:
http://guim1.tlvp.sap.corp
Login
Logout
Select Compiler Options
Platform:
EP5 / HTML For Business
Check model for errors
Compile business package
Deploy package to portal
Deploy and run in browser
Overwrite all
Compile
Compiler Output
Model is valid!
View Code
Clear
Related tasks
Start Debugger
Design Diagram
Explore Model

FIG. 15

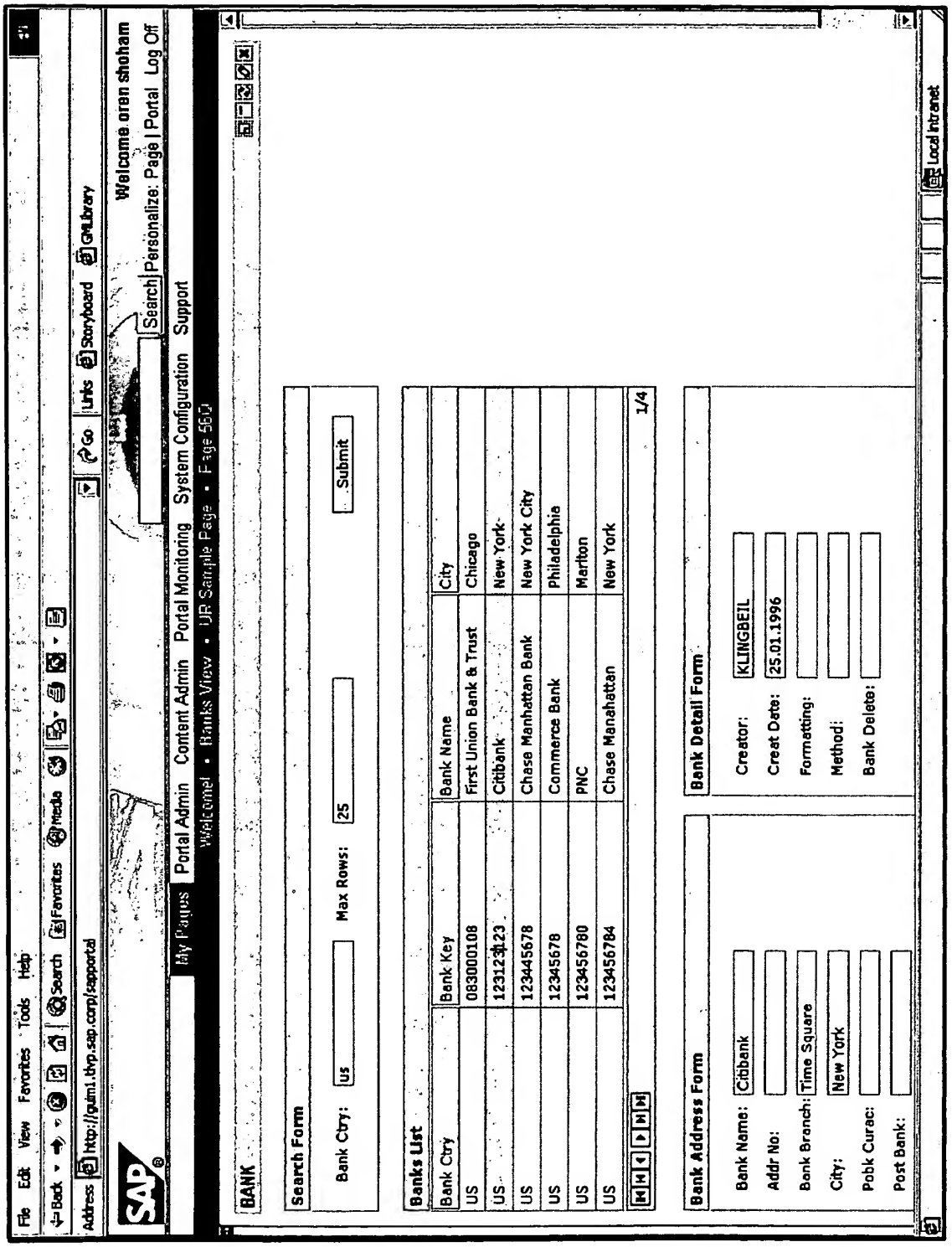
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://guml.bhp.sap.corp/sapportal
Links Storyboard GM Library
Welcome oren shoham
Search Personalize: Page | Portal Log Off
My Pages Portal Admin Content Admin Portal Monitoring System Configuration Support
Welcome! • Banks View • UR Sample Page • Page 560
BANK
Search Form
Bank City: us
Max Rows: 25
Submit
Banks List
Bank City
Bank Key
Bank Name
City
US 08300108 First Union Bank & Trust Chicago
US 123123123 Citibank New York
US 123445678 Chase Manhattan Bank New York City
US 12345678 Commerce Bank Philadelphia
US 123456780 PNC Marlton
US 123456784 Chase Manahattan New York
1/4
Bank Address Form
Bank Name: Citibank
Addr No:
Bank Branch: Time Square
City: New York
Pobk Curac:
Post Bank:
Bank Detail Form
Creator: KLINGBEIL
Creat Date: 25.01.1996
Formatting:
Method:
Bank Delete:
Local intranet

FIG. 16

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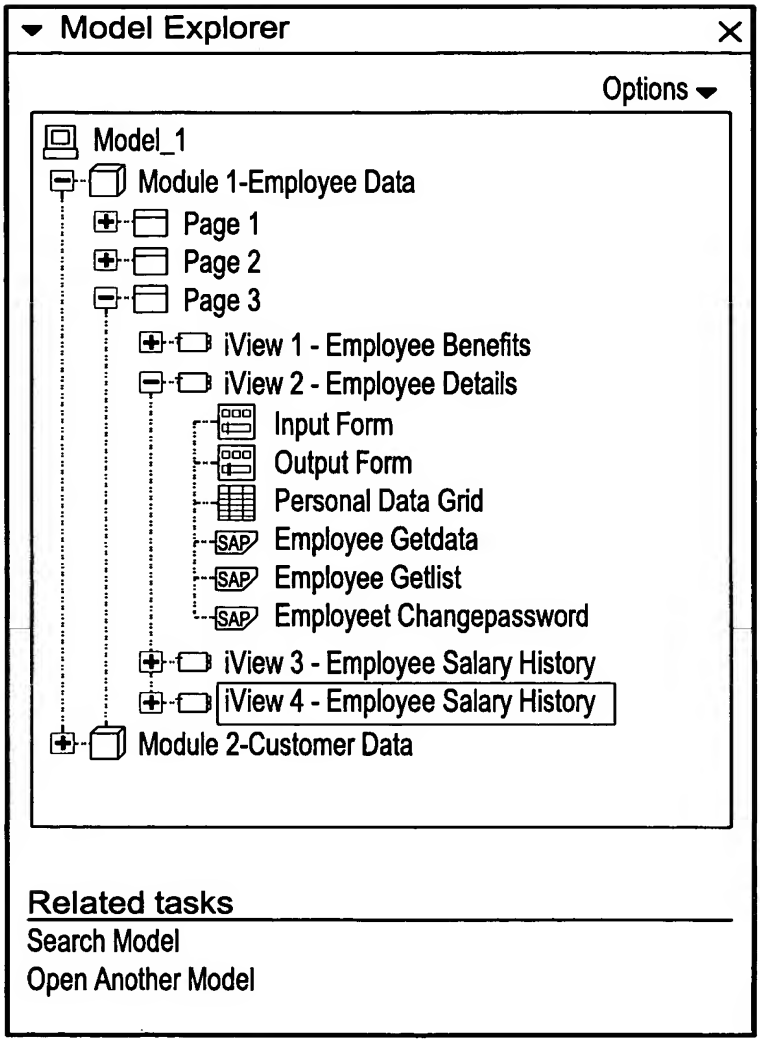
Model Explorer
Options
Model_1
Module 1-Employee Data
Page 1
Page 2
Page 3
iView 1 - Employee Benefits
iView 2 - Employee Details
Input Form
Output Form
Personal Data Grid
Employee Getdata
Employee Getlist
Employeet Changepassword
iView 3 - Employee Salary History
iView 4 - Employee Salary History
Module 2-Customer Data
Related tasks
Search Model
Open Another Model

FIG. 17